

Claims

1. A gear pump for a hydrodynamic brake which gear pump incorporates a ring gear (16) supported for rotation and having internal teeth (16a), a gearwheel (17) arranged
5 excentrically within the ring gear (16) and incorporating external teeth (17') intended to engage with the ring gear's internal teeth (16'), and a rotatable shaft (9) incorporating a portion which extends through a hole (18) in the gearwheel, while said portion of the shaft (9) has a recess (21) which incorporates a first surface (21') and the gearwheel a portion (22), which extends radially inwards in the gearwheel's hole (18)
10 and incorporates a second surface (22'), which first surface (21') and second surface (22') are so shaped as to allow transfer of rotary motion from the shaft (9) to the gearwheel (17), characterised in that said transfer between the first surface (21') and the second surface (22') takes place via a region of contact (a) which has axial extent equal to less than half of the gearwheel's axial extent (b) and which is divided by a
15 radial plane (c) which extends centrally through the gearwheel (17).
2. A gear pump according to claim 1, characterised in that said radial plane (c) divides the region of contact (a) into two substantially equal areas.
- 20 3. A gear pump according to any one of the foregoing claims, characterised in that said second surface (22') has a substantially planar extent in an axial direction and that said first surface (21') has a curved extent in an axial direction with a shape such that said region of contact (a) is constituted.
- 25 4. A gear pump according to claim 3, characterised in that that the first surface (21') has a curved extent beyond the region of contact (a) so that the distance between the first surface (21') and the second surface (22') increases in proportion to the distance from the region of contact (a).
- 30 5. A gear pump according to any one of the foregoing claims 1 to 3, characterised in that said first surface (21') has a planar extent in an axial direction and that said second

surface (22') has a curved extent in an axial direction with a shape such that said region of contact (a) is constituted.

- 5 6. A gear pump according to claim 5, characterised in that the second surface (22') has a curved extent beyond the region of contact so that the distance between the first surface (21') and the second surface (22') increases in proportion to the distance from the region of contact.
- 10 7. A gear pump according to any one of the foregoing claims, characterised in that the hydrodynamic brake incorporates a structure with a multiplicity of recesses (14) for accommodating various components (15), each of which recesses (14) has an opening in a substantially common plane (A), and that the gear pump (15') is intended to be arranged in one of said recesses (14').